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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/046,557	KWEON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Monique M Wills	1746	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the telephone conference on April 30, 2004.
2. ☒ The allowed claim(s) is/are 1-22 and 24-26.
3. ☒ The drawings filed on 16 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                       |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____.  |

#### DETAILED ACTION

Authorization for this amendment was confirmed after the Office Action mailed on May 4, 2004. Therefore, this Reasons For Allowance supercedes the Office Action mailed May 4, 2004.

#### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Darleen J. Stockley on April 30, 2004.

The application has been amended as follows:

In claim 4, line 5, after "As" insert "to form at least two surface-treatment layers, each of said surface-treatment layers comprising at least one compound selected from the group consisting of a coating-element-included hydroxide, a coating-element-included oxyhydroxide, a coating-element-included oxycarbonate, and a coating-element-included hydroxycarbonate;"

**EXAMINER'S REASONS FOR ALLOWANCE**

Claims 1-3 are allowable over the prior art of record, because the prior art is silent to a lithiated compound coated with at least two surface-treatment layers, wherein the coating comprises Al, Si, Ti, Sn, V, Ge, Ga, B or As in a compound form of hydroxide, oxyhydroxide, oxycarbonate or hydroxycarbonate.

Claims 4-5 & 9-10 are allowable over the prior art of record, because the prior art is silent to a method of preparing a positive active material comprising: coating a lithiated compound with at least two coating elements selected from Al, Si, Ti, Sn, V, Ge, Ga, B or As, to form at least two surface-treatment layers, wherein each of said surface-treatment layers comprises at least one compound selected from the group consisting of a coating-element-included hydroxide, a coating-element-included oxyhydroxide, a coating-element-included oxycarbonate, and a coating-element-included hydroxycarbonate.

Claims 11 & 15 are allowable over the prior art of record, because the prior art is silent to a lithiated compound coated with a first surface-treatment layer comprising an Al-included hydroxide, Al-included oxyhydroxide, Al-included oxycarbonate or Al-included hydroxycarbonate, and a second surface-treatment layer comprising at least one of Si-included hydroxide, Si-included oxyhydroxide, Si-included oxycarbonate or Si-included hydroxycarbonate.

Claims 12- 14 & 16-18 are allowable over the prior art of record, because the prior art is silent to a method of fabricating a positive active material for a rechargeable lithium battery comprising, coating a lithium-cobalt based compound with an Al coating liquid and Si coating liquid.

Claims 19-22 are allowable over the prior art of record, because the prior art is

Art Unit: 1746

silent to a method of preparing a positive active material comprising: coating a lithiated compound with a first surface treatment layer and a second treatment layer, wherein the first and second coatings are sequentially layered, and the coating elements are selected from Al, Si, Ti, Sn, V, Ge, Ga, B or As.

Claims 24-26 are allowable over the prior art of record, because the prior art is silent to a positive active material comprising a lithiated compound coated with, sequentially layered, first surface treatment layer and a second treatment layer, wherein the first and second coating elements are selected from Al, Si, Ti, Sn, V, Ge, Ga & B.

The prior art, such as Amatucci et al., U.S. Patent 5,705,291, teaches a lithiated intercalation battery comprising a lithiated compound coated with a mixture of boron oxide, aluminum oxide and/or silicon dioxide. The reference is silent to at least two coatings comprising an Al, Si, Ti, Sn, V, Ge, Ga or B hydroxide, oxyhydroxide, oxycarbonate or hydroxycarbonate. Therefore, the instant claims are patentably distinct from Amatucci.

### **Conclusion**

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

Art Unit: 1746


If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Randy Gulakowski, may be reached at 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MW

5/16/04

  
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